

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State
Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: io LED

Report Number: P273442

Luminaire Tested: **0.05-09W-827-90ASYM-STD-UNV-AN-3F0**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P273442
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1708-246-12)
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: io LED
Catalog Number: 0.05-09W-827-90ASYM-STD-UNV-AN-3F0
Description: iO LIGHTING SERIES 2.0 LINEAR LED LUMINAIRE. 90 DEGREE ASYMMETRIC OPTIC.
VERY HIGH OUTPUT
Light Source: 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 996.3 lumens
Efficiency: N/A
Efficacy: 53.9 lumens/watt
Spacing Criteria (0/90/45): 1.03 / 0.97 / 1.19
Luminous Opening: Rectangular (W 2.92' x L: 0.21' x H: 0')
CIE Type: Direct

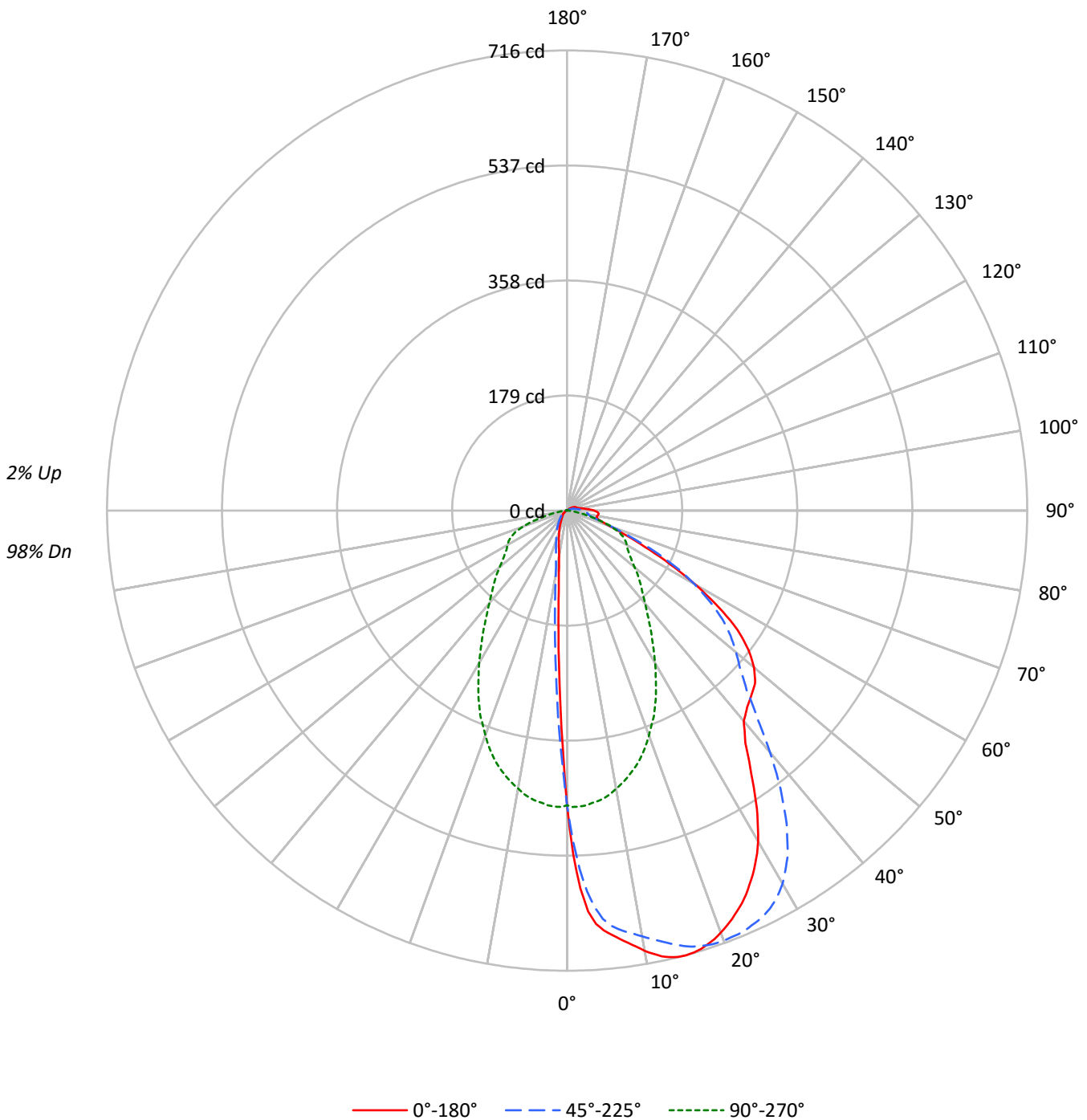
Input Watts (W): 18.5
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20					20					20					20					20					
RC	80					70					50					30					10					0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0		
RCR																										
0	119	119	119	119	116	116	116	116	110	110	110	105	105	105	100	100	100	98					98			
1	109	105	101	98	106	103	99	96	98	95	93	94	91	89	90	88	86	84					84			
2	100	93	87	82	98	91	85	80	87	82	78	84	80	76	80	77	74	72					72			
3	92	83	75	69	90	81	74	68	78	72	67	75	70	65	72	68	64	62					62			
4	85	74	66	59	83	72	65	59	70	63	58	67	61	57	65	60	56	54					54			
5	78	66	58	52	76	65	57	51	63	56	51	61	55	50	59	53	49	47					47			
6	73	60	52	45	71	59	51	45	57	50	45	55	49	44	53	48	44	42					42			
7	67	55	46	40	66	54	46	40	52	45	40	50	44	39	49	43	39	37					37			
8	63	50	42	36	61	49	41	36	48	41	36	46	40	35	45	39	35	33					33			
9	59	46	38	33	57	45	38	33	44	37	32	43	37	32	42	36	32	30					30			
10	55	42	35	30	54	42	35	30	41	34	29	40	34	29	39	33	29	27					27			

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	8124	8124	8124
5°	11658	8116	2754
10°	12512	7904	1290
15°	13136	7558	904
20°	13173	7015	692
25°	12879	6364	524
30°	12156	5596	393
35°	10804	4900	307
40°	9883	4354	266
45°	10159	4043	248
50°	10467	3770	226
55°	10006	3650	185
60°	8180	3802	117
65°	5575	4016	138
70°	3574	3796	171
75°	3374	2731	185
80°	4856	1785	275
85°	10020	1219	549



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	39.8	4.0
10°-20°	109.8	11.0
20°-30°	166.0	16.7
30°-40°	190.9	19.2
40°-50°	183.3	18.4
50°-60°	153.1	15.4
60°-70°	82.9	8.3
70°-80°	30.4	3.1
80°-90°	18.0	1.8
90°-100°	10.6	1.1
100°-110°	5.6	0.6
110°-120°	3.4	0.3
120°-130°	1.8	0.2
130°-140°	0.6	0.1
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	315.7	31.7
0°-40°	506.5	50.8
0°-60°	843.0	84.6
0°-90°	974.2	97.8
90°-120°	19.6	2.0
90°-150°	22.1	2.2
90°-180°	22.0	2.2
0°-180°	996.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	459	459	459	459	459	
5°	656	638	456	214	155	63
15°	716	702	412	67	49	201
25°	659	704	326	39	27	301
35°	500	595	227	24	14	314
45°	406	395	161	14	10	313
55°	324	295	118	8	6	282
65°	133	149	96	4	3	138
75°	49	42	40	3	3	56
85°	49	31	6	2	3	40
90°	42	25	1	2	2	23
95°	30	19	1	2	2	22
105°	16	10	1	1	2	18
115°	13	5	1	1	1	13
125°	7	1	1	1	1	6
135°	1	1	1	1	1	1
145°	0	0	0	0	0	0
155°	0	0	0	0	0	0
165°	0	0	0	0	0	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	458.6	458.6	458.6	458.6	458.6	458.6	458.6	458.6	458.6	458.6	458.6
1°	534.7	533.0	534.7	526.5	527.0	529.7	529.7	524.8	527.5	516.1	513.9
2°	588.3	587.2	587.2	580.1	580.1	582.3	581.2	575.2	575.2	563.1	558.2
3°	624.4	622.8	622.2	616.7	616.7	617.8	616.7	611.8	609.6	599.2	593.2
4°	644.7	644.1	642.5	638.6	638.6	639.7	638.6	635.4	633.7	625.0	619.5
5°	655.6	655.6	653.4	650.7	650.7	651.8	650.1	648.5	646.3	641.4	637.5
6°	663.8	662.7	662.2	658.9	658.9	659.4	658.3	656.7	655.1	651.8	649.0
7°	671.5	670.4	669.3	666.0	666.5	666.0	664.9	662.7	661.6	658.9	656.1
8°	679.1	678.0	677.5	673.7	673.7	673.1	672.0	669.3	668.2	664.9	662.2
9°	686.8	685.7	685.2	681.3	681.3	680.8	679.1	676.9	674.2	670.4	667.1
10°	695.6	694.5	693.9	690.1	689.5	688.4	686.8	684.6	680.8	676.9	672.6
11°	702.7	702.7	700.5	697.7	696.6	696.1	694.5	692.3	687.9	683.0	678.6
12°	709.2	709.2	707.0	704.3	703.2	702.7	701.0	698.8	693.9	690.1	684.1
13°	713.1	713.1	711.4	708.7	708.7	708.1	706.5	704.9	699.9	696.1	690.1
14°	715.8	715.8	714.2	711.4	712.0	711.4	710.3	709.2	704.9	701.6	696.1
15°	716.3	716.9	714.7	712.5	713.6	713.1	712.5	711.4	709.2	705.9	701.6
16°	715.3	716.3	714.2	712.0	713.6	713.1	713.1	712.0	711.4	709.2	705.9
17°	713.1	714.2	712.5	710.3	712.5	712.0	712.0	712.0	712.5	710.9	708.7
18°	709.2	710.9	709.8	708.1	710.3	710.9	710.9	710.3	712.5	712.0	710.9
19°	704.9	706.5	705.9	704.9	707.0	708.1	708.1	708.7	711.4	712.0	712.0
20°	698.8	701.0	700.5	699.9	703.2	703.8	704.9	705.9	709.8	710.9	712.0
21°	692.3	695.0	695.0	694.5	697.7	699.4	701.0	702.7	707.0	709.2	711.4
22°	685.2	687.9	687.9	687.9	691.7	693.9	695.6	699.4	704.3	708.1	710.9
23°	676.9	679.7	679.7	680.2	684.6	687.3	689.5	693.9	700.5	705.9	709.2
24°	668.7	670.9	671.5	672.0	676.9	679.7	681.9	687.3	695.6	702.7	706.5
25°	658.9	661.6	661.6	662.7	668.2	670.9	673.7	680.2	689.5	697.7	703.8
26°	647.4	650.7	651.8	652.9	658.3	661.1	664.4	671.5	682.4	691.2	699.9
27°	635.9	639.2	640.8	640.8	647.9	650.7	654.5	662.2	674.8	684.1	695.0
28°	623.3	626.6	626.6	629.3	635.9	639.2	643.0	651.8	664.9	675.3	688.4
29°	609.6	612.9	612.9	616.2	622.8	626.6	630.4	640.3	652.3	665.5	680.2
30°	594.3	597.6	598.1	600.9	608.0	611.8	616.2	627.1	639.2	654.0	670.4
32.5°	549.4	553.3	553.3	559.3	564.8	571.3	574.6	586.6	602.5	618.9	638.6
35°	499.6	503.5	502.9	506.2	515.0	518.8	525.4	537.9	554.4	574.6	595.4
37.5°	455.3	457.5	456.4	459.1	465.2	471.2	476.1	486.0	502.4	523.7	545.1
40°	427.4	427.9	426.9	426.3	429.0	431.2	434.0	440.0	452.0	470.1	490.9
42.5°	414.8	413.2	411.5	409.9	408.2	408.2	407.2	408.2	412.6	423.0	437.8
45°	405.5	405.0	402.8	400.6	397.3	396.2	394.0	389.6	386.9	389.1	395.1
47.5°	396.8	395.1	392.9	390.7	386.9	385.3	381.4	374.9	369.9	366.7	365.0
50°	379.8	377.6	375.4	373.8	370.5	368.8	365.0	359.0	354.1	348.0	343.1
52.5°	355.7	353.0	351.9	350.2	347.0	344.8	341.5	337.1	332.7	328.3	320.7
55°	324.0	322.3	321.2	321.8	318.0	316.9	314.7	309.2	305.4	301.0	295.0
57.5°	279.6	278.5	279.1	281.8	281.3	281.8	281.8	279.1	275.8	270.3	263.2
60°	230.9	229.8	230.9	233.7	234.2	235.9	237.5	239.7	240.2	235.9	228.2
62.5°	180.6	178.9	179.5	181.1	181.1	183.3	185.5	189.3	193.2	193.7	191.5
65°	133.0	131.3	131.3	131.9	131.3	133.0	134.1	135.2	139.5	145.6	148.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
67.5°	95.2	94.1	94.1	94.1	94.1	94.7	94.1	95.2	97.4	101.2	105.6
70°	69.0	68.4	68.4	68.4	67.9	68.4	69.0	69.0	70.0	71.7	73.9
72.5°	55.8	55.3	55.3	54.7	53.6	53.6	53.1	52.5	52.0	52.5	53.6
75°	49.3	49.3	48.7	48.2	47.1	46.5	45.4	44.3	43.2	42.1	41.6
77.5°	47.1	47.1	46.5	45.4	44.3	43.2	42.7	40.5	38.9	37.2	35.6
80°	47.6	47.1	46.5	45.4	43.8	43.2	42.1	39.9	37.8	35.0	32.8
82.5°	48.7	48.7	48.2	46.5	44.9	43.8	42.7	40.5	37.8	35.0	31.7
85°	49.3	48.7	48.2	46.5	44.9	43.8	42.1	39.4	36.7	33.9	30.6
87.5°	46.5	46.0	45.4	43.8	41.6	41.0	39.4	36.7	34.5	31.2	28.5
90°	42.1	41.0	40.5	38.9	37.2	36.1	35.0	32.3	30.1	27.9	25.2
92.5°	35.6	35.0	34.5	32.8	31.7	30.6	29.6	27.4	25.7	24.1	22.4
95°	29.6	29.0	28.5	27.4	26.3	25.7	24.6	23.0	21.9	20.2	19.2
97.5°	24.6	24.1	23.5	23.0	21.9	21.3	20.8	19.7	18.6	17.5	16.4
100°	20.8	20.8	20.2	19.7	18.6	18.1	17.5	17.0	15.9	14.8	14.2
102.5°	18.1	18.1	17.5	17.0	16.4	15.9	15.3	14.8	13.7	12.6	12.0
105°	16.4	15.9	15.9	15.3	14.8	14.2	13.7	12.6	11.5	10.9	9.9
107.5°	15.3	14.8	14.8	14.2	13.1	13.1	12.6	11.5	10.4	9.3	8.8
110°	14.2	14.2	13.7	13.1	12.6	12.0	11.5	10.9	9.3	8.2	7.1
112.5°	13.7	13.7	13.1	12.6	12.0	11.5	10.9	9.9	8.8	7.7	6.0
115°	13.1	12.6	12.6	12.0	10.9	10.4	9.9	8.8	7.7	6.0	4.9
117.5°	11.5	11.5	11.5	10.4	9.9	9.3	8.8	7.7	6.6	4.9	3.8
120°	10.4	9.9	9.9	9.3	8.2	7.7	7.7	6.6	4.9	3.8	2.7
122.5°	8.8	8.2	8.2	7.7	7.1	6.6	6.0	4.9	3.8	2.7	2.2
125°	6.6	6.6	6.6	6.0	5.5	4.9	4.4	3.8	2.7	2.2	1.1
127.5°	5.5	4.9	4.9	4.4	3.8	3.8	3.3	2.7	1.6	1.1	1.1
130°	3.8	3.8	3.3	3.3	2.7	2.2	1.6	1.1	1.1	1.1	1.1
132.5°	2.2	2.2	2.2	1.6	1.1	1.1	1.1	1.1	1.1	1.1	1.1
135°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
0°	458.6	458.6	458.6	458.6	458.6	458.6	458.6	458.6	458.6	458.6	458.6
1°	510.6	498.5	494.2	490.9	487.0	481.6	478.3	474.5	467.3	461.3	454.2
2°	551.1	535.8	528.1	519.3	513.9	505.1	496.9	486.5	473.9	461.3	447.1
3°	584.5	568.0	556.5	544.5	537.9	527.0	513.3	498.0	479.4	460.2	438.9
4°	610.7	594.3	581.2	566.9	559.3	547.2	529.2	508.9	483.8	459.1	431.2
5°	629.9	615.1	602.0	586.6	578.4	565.9	544.0	517.7	488.1	456.4	422.5
6°	643.0	629.9	617.8	603.6	595.4	582.3	557.6	527.5	492.5	454.8	413.2
7°	651.8	640.8	630.4	617.8	609.1	597.0	570.2	536.8	495.8	452.0	403.9
8°	658.3	648.5	639.7	628.8	621.1	609.1	581.7	545.6	499.1	448.7	394.6
9°	662.7	653.4	646.3	636.4	629.9	619.5	591.6	552.2	500.7	444.4	383.6
10°	668.2	657.8	651.2	643.0	637.0	628.2	600.9	559.3	502.9	439.4	372.7
11°	673.7	662.2	655.6	647.9	642.5	634.8	608.5	565.3	504.6	434.5	361.2
12°	678.6	666.5	660.0	652.3	647.4	639.7	615.1	571.3	506.2	429.6	350.2
13°	684.6	670.4	663.8	656.7	651.2	644.1	621.1	576.8	507.3	424.1	338.7
14°	689.5	676.4	667.6	660.0	655.1	647.9	626.1	582.3	507.8	418.1	327.3
15°	694.5	681.3	671.5	662.7	657.8	650.7	630.4	586.1	508.4	412.1	315.2
16°	699.4	686.2	675.3	665.5	661.1	654.0	634.3	589.9	508.4	405.5	303.2
17°	704.3	691.7	679.1	668.7	664.4	657.8	637.5	593.8	507.8	397.8	290.6
18°	708.7	696.1	684.6	672.6	668.2	661.1	640.8	597.0	506.8	389.6	279.1
19°	710.9	699.9	688.4	676.9	670.9	664.4	644.1	600.3	505.1	381.4	266.5
20°	712.0	703.2	692.3	680.2	673.1	666.5	646.8	603.1	502.9	372.1	253.9
21°	712.5	705.9	695.0	683.5	676.4	669.3	649.6	605.3	500.7	362.8	242.4
22°	713.1	707.6	698.8	687.3	679.1	672.0	652.3	608.5	499.6	354.1	230.9
23°	712.0	708.1	700.5	689.5	682.4	674.2	655.1	611.3	497.4	345.9	219.4
24°	710.3	708.7	702.7	692.3	685.7	676.9	657.8	613.5	494.7	335.5	208.5
25°	709.2	708.7	703.2	693.9	688.4	680.2	659.4	615.1	491.4	325.6	198.1
26°	707.0	708.1	704.3	696.6	690.6	682.4	661.6	616.2	487.0	315.2	187.7
27°	703.8	706.5	705.4	699.4	693.4	685.7	664.4	617.3	482.1	304.3	178.4
28°	699.9	704.9	705.9	701.6	696.1	688.4	667.6	619.5	477.2	293.3	169.1
29°	695.0	702.1	704.9	703.2	699.4	692.3	670.4	622.2	471.7	284.0	160.9
30°	687.9	698.3	703.8	704.3	701.6	695.0	673.1	623.3	466.8	273.6	153.8
32.5°	662.7	683.0	696.1	705.9	706.5	702.1	681.3	627.1	452.0	248.5	136.8
35°	624.4	655.1	680.2	700.5	705.9	708.7	691.7	631.5	436.7	226.6	120.9
37.5°	579.5	612.9	651.2	684.6	697.7	705.9	699.9	635.4	418.1	205.8	110.5
40°	524.8	562.0	607.4	656.1	675.3	695.0	703.2	636.4	398.4	188.3	101.2
42.5°	467.9	505.7	553.8	611.3	640.3	669.8	698.3	632.6	374.9	173.5	94.1
45°	415.4	447.6	494.7	558.2	592.7	631.5	681.9	620.6	351.3	161.4	88.7
47.5°	372.1	393.5	434.0	497.4	535.2	583.4	658.3	604.2	326.2	149.4	83.7
50°	341.5	350.8	378.1	432.3	469.0	521.0	622.8	586.6	303.7	136.8	77.7
52.5°	316.3	316.9	330.0	367.7	401.1	451.5	572.4	562.0	285.7	126.4	71.7
55°	288.9	285.1	289.5	312.5	335.5	376.5	505.1	531.9	272.0	118.2	65.1
57.5°	258.8	251.7	251.7	263.2	277.5	308.1	420.3	487.0	259.9	111.6	59.6
60°	223.3	215.1	212.3	218.4	226.6	247.4	340.9	425.8	246.3	107.3	55.3
62.5°	185.0	177.3	174.6	176.8	180.6	195.4	263.2	351.3	227.7	102.3	50.9
65°	147.2	140.6	136.8	137.9	139.5	151.0	197.0	270.3	201.4	95.8	47.1



TEST NUMBER: P273442

CATALOG NUMBER: 0.05-09W-827-90ASYM-STD-UNV-AN-3F0

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
67.5°	109.4	108.4	106.2	106.7	108.9	113.3	145.0	195.9	165.3	87.0	42.1
70°	77.7	80.4	81.5	82.1	82.6	85.4	104.0	136.3	123.1	73.3	36.7
72.5°	55.3	58.0	61.3	62.9	63.5	64.6	75.0	93.0	87.0	56.9	29.0
75°	42.1	43.2	45.4	48.7	48.7	49.8	54.7	62.9	59.1	39.9	21.9
77.5°	34.5	34.5	35.6	37.8	38.3	38.9	41.0	43.8	38.9	26.8	14.8
80°	31.2	30.1	29.6	30.1	30.6	30.6	31.2	30.1	25.7	17.5	9.3
82.5°	29.0	27.4	25.7	25.2	24.6	24.1	23.5	20.8	17.0	10.4	4.9
85°	27.9	25.2	23.0	21.3	20.8	19.7	18.1	14.8	10.9	6.0	2.7
87.5°	25.7	23.0	20.8	18.6	17.5	16.4	13.7	10.4	6.6	3.3	1.1
90°	23.0	20.8	18.6	15.9	14.8	13.7	10.9	7.1	3.8	1.1	1.1
92.5°	20.2	18.6	16.4	14.2	12.6	11.5	8.2	4.9	2.2	1.1	1.1
95°	17.5	16.4	14.2	12.0	10.9	9.3	6.6	3.3	1.1	1.1	1.1
97.5°	15.3	14.2	12.0	9.9	8.8	7.7	4.4	1.6	1.1	1.1	1.1
100°	13.1	12.0	10.4	8.2	7.1	5.5	2.7	1.1	1.1	1.1	1.1
102.5°	10.9	9.9	8.2	6.0	4.9	3.8	1.6	1.1	1.1	1.1	1.1
105°	8.8	7.7	6.6	4.4	3.3	2.2	1.1	1.1	1.1	1.1	1.1
107.5°	7.7	6.0	4.9	3.3	2.2	1.6	1.1	1.1	1.1	1.1	1.1
110°	6.0	4.9	3.3	2.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1
112.5°	4.9	3.3	2.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
115°	3.8	2.2	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
117.5°	2.7	1.6	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
120°	1.6	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
122.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
125°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
127.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
130°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
132.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
135°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P273442

CATALOG NUMBER: 0.05-09W-827-90ASYM-STD-UNV-AN-3F0

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°	95°
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P273442

CATALOG NUMBER: 0.05-09W-827-90ASYM-STD-UNV-AN-3F0

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
0°	458.6	458.6	458.6	458.6	458.6	458.6	458.6	458.6	458.6	458.6	458.6
1°	444.9	436.2	428.5	425.2	420.8	415.9	414.3	402.8	397.8	394.0	389.6
2°	431.2	416.5	402.8	399.5	389.1	378.1	371.6	355.2	345.3	338.2	330.0
3°	417.5	395.7	377.1	370.5	357.4	340.9	329.4	309.7	296.1	286.2	275.3
4°	402.2	374.9	350.8	340.9	326.2	305.4	290.0	268.2	251.7	240.2	228.2
5°	387.5	354.6	325.1	313.0	296.1	272.0	253.9	231.5	214.0	201.9	189.3
6°	372.1	333.8	299.9	285.7	268.2	241.3	222.2	199.2	181.7	169.6	158.2
7°	356.3	313.0	276.4	260.5	242.4	214.5	193.7	172.4	155.4	144.5	132.4
8°	340.9	293.3	253.9	237.5	218.9	190.4	170.2	149.9	133.0	122.6	113.8
9°	325.1	274.2	232.0	215.1	197.0	168.6	149.4	129.7	116.0	107.3	99.1
10°	309.2	255.6	212.3	195.4	177.9	150.5	131.3	114.9	102.3	94.7	88.1
11°	293.9	238.1	194.3	176.8	160.3	133.5	117.1	102.3	91.4	84.8	79.4
12°	278.5	221.1	177.9	160.9	144.5	120.4	105.1	92.5	83.2	77.7	72.8
13°	263.8	205.2	162.5	146.7	130.8	108.9	95.2	84.3	76.6	71.7	67.3
14°	249.0	189.3	149.4	132.4	119.3	99.6	87.6	77.7	71.1	66.8	62.9
15°	235.3	175.7	135.7	121.5	109.4	91.4	81.0	72.2	66.8	62.4	59.1
16°	221.6	162.5	124.8	112.2	100.7	84.8	75.0	67.9	62.9	58.6	55.8
17°	208.0	151.0	115.5	103.4	93.0	78.8	70.6	64.0	59.1	55.3	52.5
18°	195.9	140.1	106.7	95.8	86.5	73.9	66.2	60.2	55.8	52.5	49.3
19°	183.9	129.7	99.1	89.2	81.0	70.0	62.9	57.5	53.1	49.3	46.5
20°	172.4	120.9	92.5	83.7	76.1	66.2	59.6	54.2	49.8	46.5	43.8
21°	162.0	112.7	87.0	78.8	71.7	62.9	56.9	51.4	47.1	43.8	41.6
22°	152.1	105.6	82.1	74.4	68.4	60.2	54.2	48.7	44.9	41.6	39.4
23°	142.3	99.6	77.7	70.6	65.1	56.9	51.4	46.0	42.7	39.9	37.8
24°	133.0	94.1	73.9	67.3	62.4	54.7	48.7	43.8	40.5	37.8	35.6
25°	125.3	89.2	70.0	64.6	59.1	52.0	46.5	42.1	38.9	36.1	33.9
26°	118.8	84.3	66.8	61.8	56.9	49.3	44.3	39.9	37.2	34.5	32.3
27°	112.2	80.4	64.0	59.1	54.2	47.1	42.1	38.3	35.6	32.8	30.6
28°	106.7	76.6	61.3	56.4	52.0	45.4	40.5	36.7	33.9	31.2	29.0
29°	101.2	73.3	59.1	54.2	49.8	43.2	38.9	35.0	32.3	29.6	27.4
30°	96.3	70.0	56.4	52.0	47.6	41.6	37.2	33.4	30.6	27.9	25.2
32.5°	86.5	63.5	51.4	47.1	43.2	37.8	33.9	30.1	26.8	24.1	22.4
35°	78.3	58.0	46.5	42.7	39.4	34.5	30.1	26.8	23.5	21.3	19.7
37.5°	71.7	53.1	42.7	38.9	36.1	31.2	27.4	23.5	20.8	18.6	17.0
40°	65.7	49.3	39.4	36.1	32.8	28.5	24.1	20.8	18.1	16.4	14.8
42.5°	61.8	46.0	36.1	33.4	30.6	25.7	21.9	18.6	15.9	14.2	12.6
45°	58.6	43.2	33.9	30.6	27.9	23.5	19.7	16.4	14.2	12.6	10.9
47.5°	55.3	40.5	31.7	28.5	25.7	21.3	17.5	14.8	12.6	10.9	9.9
50°	52.0	37.8	29.6	26.3	23.5	19.2	15.9	13.1	10.9	9.3	8.2
52.5°	48.2	35.0	26.8	24.1	21.3	17.5	14.2	11.5	9.3	8.2	7.7
55°	44.3	32.3	24.6	21.9	19.7	15.9	12.6	9.9	7.7	7.1	6.6
57.5°	39.4	29.0	21.9	19.7	17.5	14.2	10.4	8.2	6.6	6.0	6.0
60°	35.6	25.7	19.2	17.5	15.9	12.0	8.8	6.6	5.5	4.9	4.9
62.5°	31.7	22.4	17.0	15.3	13.7	10.4	7.1	5.5	4.9	4.4	3.8
65°	27.9	19.2	14.8	13.1	11.5	8.2	5.5	4.4	3.8	3.3	3.3



TEST NUMBER: P273442

CATALOG NUMBER: 0.05-09W-827-90ASYM-STD-UNV-AN-3F0

CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
67.5°	24.1	15.9	12.0	10.4	9.3	6.0	4.4	3.3	2.7	2.7	2.7
70°	19.7	13.1	9.3	8.2	6.6	4.4	3.3	2.7	2.7	2.7	2.7
72.5°	15.3	9.9	7.1	6.0	4.4	3.3	2.7	2.7	2.7	2.7	2.7
75°	10.9	7.1	4.4	3.8	2.7	2.2	2.2	2.2	2.7	2.7	2.7
77.5°	7.7	4.9	2.7	2.2	2.2	2.2	2.2	2.2	2.7	2.7	2.7
80°	4.9	2.7	1.6	2.2	2.2	2.2	2.2	2.2	2.2	2.7	2.7
82.5°	2.7	1.6	1.6	1.6	1.6	2.2	2.2	2.2	2.2	2.2	2.2
85°	1.1	1.6	1.6	1.6	1.6	1.6	2.2	2.2	2.2	2.2	2.2
87.5°	1.1	1.1	1.6	1.6	1.6	1.6	1.6	1.6	2.2	2.2	2.2
90°	1.1	1.1	1.1	1.6	1.6	1.6	1.6	1.6	1.6	2.2	2.2
92.5°	1.1	1.1	1.1	1.1	1.1	1.6	1.6	1.6	1.6	1.6	1.6
95°	1.1	1.1	1.1	1.1	1.1	1.1	1.6	1.6	1.6	1.6	1.6
97.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.6	1.6	1.6	1.6
100°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.6	1.6
102.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
105°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
107.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
110°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
112.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
115°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
117.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
120°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
122.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
125°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
127.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
130°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
132.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
135°	1.1	1.1	1.1	1.6	1.1	1.6	1.6	1.6	1.1	1.1	1.1
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P273442

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CANDELA DISTRIBUTION (continued):

	100°	105°	110°	112.5°	115°	120°	125°	130°	135°	140°	145°
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P273442

CATALOG NUMBER: 0.05-09W-827-90ASYM-STD-UNV-AN-3F0

CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
0°	458.6	458.6	458.6	458.6	458.6	458.6	458.6	458.6
1°	395.1	386.9	384.7	372.7	373.2	369.9	371.6	371.6
2°	331.6	321.8	318.0	306.5	305.4	301.0	301.5	301.0
3°	274.2	263.8	259.4	248.5	246.3	241.9	241.9	241.3
4°	224.9	214.5	209.6	200.8	198.1	193.7	193.2	191.5
5°	185.0	175.1	170.2	163.6	160.3	156.5	156.0	154.9
6°	152.7	144.5	139.5	133.5	130.2	127.0	127.0	125.9
7°	127.5	120.4	116.6	112.2	109.4	106.7	106.2	105.6
8°	108.9	101.2	99.6	96.3	94.1	91.9	91.4	90.3
9°	95.2	88.7	87.6	84.8	82.6	81.0	80.4	79.9
10°	84.3	79.4	78.3	76.1	74.4	72.8	72.8	71.7
11°	75.5	72.2	71.1	69.5	67.9	66.8	66.8	66.2
12°	69.5	66.8	65.7	64.6	62.9	61.8	61.8	61.3
13°	64.6	61.8	61.3	60.2	58.6	57.5	57.5	56.9
14°	60.2	58.0	56.9	56.4	54.7	54.2	53.6	53.1
15°	56.9	54.2	53.6	52.5	50.9	50.3	49.8	49.3
16°	53.1	50.9	49.8	48.7	47.6	47.1	46.5	46.5
17°	49.8	47.6	47.1	46.5	44.9	44.3	43.8	43.8
18°	47.1	44.9	44.3	43.8	42.1	41.6	41.6	41.0
19°	44.3	42.7	41.6	41.0	39.9	39.4	38.9	38.9
20°	42.1	40.5	39.4	38.9	37.8	37.2	37.2	36.7
21°	39.9	38.3	37.2	36.7	35.6	35.0	35.0	34.5
22°	37.8	36.1	35.6	35.0	33.9	33.4	32.8	32.8
23°	36.1	34.5	33.4	32.8	31.7	31.2	30.6	30.6
24°	33.9	32.3	31.7	31.2	30.1	29.0	29.0	28.5
25°	32.3	30.6	29.6	29.0	27.9	27.4	26.8	26.8
26°	30.6	28.5	27.9	27.4	26.3	25.7	25.2	25.2
27°	28.5	26.8	26.3	25.7	24.6	24.1	23.5	23.5
28°	26.8	25.2	24.6	24.1	23.0	22.4	22.4	21.9
29°	25.2	23.5	23.0	22.4	21.9	21.3	20.8	20.8
30°	23.5	22.4	21.9	21.3	20.8	19.7	19.7	19.2
32.5°	20.8	19.2	18.6	18.6	17.5	17.0	17.0	16.4
35°	18.1	16.4	15.9	15.9	15.3	14.8	14.8	14.2
37.5°	15.3	14.2	14.2	13.7	13.1	13.1	12.6	13.1
40°	13.7	12.6	12.0	12.0	11.5	11.5	11.5	11.5
42.5°	11.5	10.9	10.9	10.4	10.4	10.4	10.4	10.4
45°	10.4	9.9	9.9	9.9	9.9	9.9	9.9	9.9
47.5°	9.3	8.8	8.8	8.8	8.8	8.8	8.8	8.8
50°	8.2	8.2	8.2	8.2	8.2	8.2	8.2	8.2
52.5°	7.1	7.1	7.1	7.1	7.1	7.1	7.1	7.1
55°	6.6	6.6	6.0	6.0	6.0	6.0	6.0	6.0
57.5°	5.5	5.5	4.9	4.9	4.9	4.9	4.4	4.4
60°	4.4	3.8	3.8	3.8	3.3	3.3	3.3	3.3
62.5°	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3
65°	2.7	2.7	3.3	3.3	3.3	3.3	3.3	3.3



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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
67.5°	2.7	2.7	2.7	2.7	3.3	3.3	3.3	3.3
70°	2.7	2.7	3.3	3.3	3.3	3.3	3.3	3.3
72.5°	2.7	2.7	2.7	2.7	3.3	3.3	3.3	3.3
75°	2.7	2.7	2.7	2.7	2.7	3.3	2.7	2.7
77.5°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
80°	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
82.5°	2.2	2.7	2.7	2.7	2.7	2.7	2.7	2.7
85°	2.2	2.2	2.2	2.7	2.7	2.7	2.7	2.7
87.5°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
90°	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
92.5°	1.6	2.2	2.2	2.2	2.2	2.2	2.2	2.2
95°	1.6	1.6	1.6	1.6	1.6	2.2	2.2	2.2
97.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
100°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
102.5°	1.1	1.6	1.6	1.6	1.6	1.6	1.6	1.6
105°	1.1	1.1	1.1	1.1	1.6	1.6	1.6	1.6
107.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
110°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
112.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
115°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
117.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
120°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
122.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
125°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
127.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
130°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
132.5°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
135°	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
137.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
140°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
142.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
145°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
147.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
150°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
152.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
155°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
157.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
160°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
162.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
165°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P273442

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CANDELA DISTRIBUTION (continued):

	150°	155°	157.5°	160°	165°	170°	175°	180°
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)